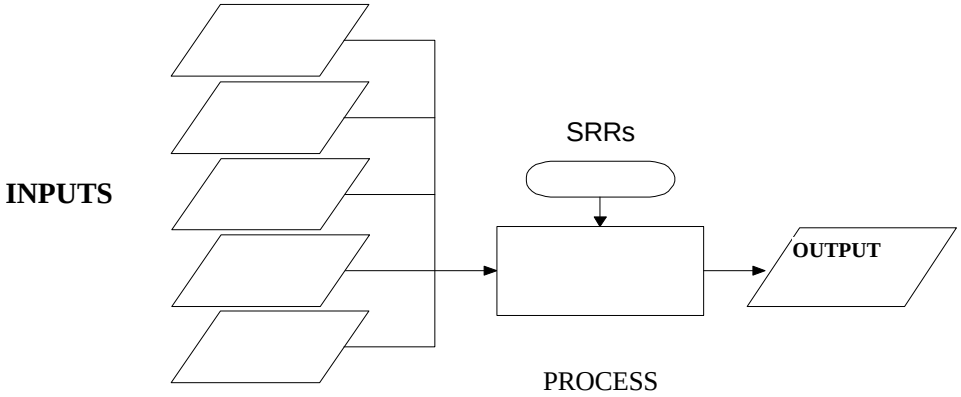
Figure 4-3-2. General Instructions for Completion of Safety Attribute Inspections.

The following general instructions provide explanations and guidance for each section of the Safety Attribute Inspection (SAI) data collection tools.



Element Relationship Diagram

Each SAI data collection tool was developed by first defining the function of the element and determining the regulatory requirements for that function; then, the inputs and outputs to that function were identified. These features are graphically displayed on the element relationship diagram. Each element should be thought of as a process that an Air Carrier performs. Since some elements (processes) are based upon specific approvals or authorizations, not all of them will apply to every operator.

ELEMENT SUMMARY INFORMATION

Element: Each element is identified by name and by a unique 3-character number. The first character refers to the system number, the second character is the subsystem and the third character is the element.

Purpose of this Element: Each element should be considered a process that is performed by an Air Carrier. The "Purpose" statement defines the intent of that process. An Air Carrier's process is made up of a series of policies and procedures, which should encompass the six system safety attributes that are contained in each SAI.

Inputs: Inputs are the raw materials, records, information, services, or resources coming into a process (e.g. money, staffing, and equipment). Each SAI lists the inputs that are provided to that function. In many cases, a process contains inputs from the outputs of other processes within the organization.

Outputs: Outputs are the product of a process, the goal being safety or the services the carrier performs that ensure safety. Outputs might be an airworthy aircraft or a pilot that has been properly trained. Each SAI lists the outputs that are provided by that process.

Performance Measures: The purpose of performance measures is to determine the effectiveness of the carrier's procedures in meeting the desired output of the process. Performance measures are typically based on FAA requirements and other safety standards.

SRR: Specific Regulatory Requirements (SRR) are included with each SAI as a reference for the inspector. An SRR is a Federal Aviation Regulation that is refined to its most specific level, which requires an operator's compliance (either once or continually). The SRR were used during the development of the SAI data collection tools to help define the function of the element and to develop some of the procedures attribute and controls attribute questions. Some of these regulations pertain to certification and some are surveillance-based. Only those SRR that must be complied with on a continual basis are included in the data collection tools.

Questions that are based upon regulatory requirements have an SRR appended to them. Therefore a "no" answer to such a question may require an enforcement investigation. On the other hand, questions that do not have an SRR appended to them are not regulatory in nature, but are based upon system safety principles. A no answer to this type of question, while not a violation, would be an indicator of a risk that may require additional action on the part of the CMT.

Reference to "Other CFRs" means Title 14 Code of Federal Regulations (14 CFR) other than those categorized as Specific Regulatory Requirements (SRR).

When no Specific Regulatory Requirements are quoted, and a program is approved or accepted, the operator is bound to perform the operation in accordance with its approved or accepted program. Should the operator fail to perform in accordance with their approved or accepted program, then the possibility exists that they would be in violation of additional CFRs (e.g. 14 CFR 119.5(l), 121.153(a)(2), 121.367 (c), and 43.13(c)).

Other CFRs and FAA Guidance: SAIs are accomplished by a team of trained and qualified FAA Operations, Airworthiness, and/or Cabin Safety Aviation Safety Inspectors (ASI) assigned to an Air Transportation Oversight System (ATOS) Certificate Management Team (CMT).

Prior to beginning any planned surveillance, the inspector should review the SAI data collection tool, and the Other CFRs and FAA Guidance for background information that is necessary to accomplish the inspection. If the guidance has been updated since the SAI was published, the inspector should read the latest version even if it is not specifically mentioned in the SAI. In addition, the inspector should review the related elements that are included in the associated EPI. The purpose of this review is to make the inspector aware of any other elements that may interface with this SAI which might benefit from a review to ensure that any related procedures do not conflict.

SRR SPECIFIC INFORMATION

This section provides additional specific information about each SRR. This information is presented in tabular format and includes: the regulation number, a brief plain language summary

of the intent of the SRR, and a description of which aviation safety inspector specialty would be most likely to accomplish the inspection of this element for both certification and surveillance. Note: The purpose of the Intent statement is to provide an understanding of why certain questions were formed during the development of the SAI. The Intent statement is not to be considered as a legal interpretation of an SRR.

SAFETY ATTRIBUTE SECTIONS

Objective: This defines FAA's responsibility and the scope of the inspection in general terms. Specific objectives are contained in each section of the SAI, as follows:

Section 1 – Responsibility Attribute
To determine if there is a clearly identifiable, qualified, and knowledgeable person who is accountable for the quality of the process.

Section 2 – Authority Attribute
To determine if there is a clearly identifiable, qualified, and knowledgeable person with the authority to establish and modify the process.

Section 3 – Procedures Attribute
To determine if the air carrier has documented procedures for accomplishing the process.

Section 4 – Control Attribute
To determine if checks and restraints are designed into the process to ensure a desired result is achieved.

Section 5 – Process Measurement Attribute
To determine if the air carrier measures and assesses the process to identify and correct problems or potential problems.

Section 6 – Interfaces Attribute
To determine if the air carrier identifies and manages the interactions between the process and the other element processes within the air carrier organization.

Tasks to accomplish:

Each data collection tool contains the statement, "*To meet this objective, the inspector will accomplish the following task(s):* and lists one or more tasks that will be completed during the inspection. Each task is made up of various activities. Some of the tasks that may be listed on an SAI are:

1. **Review the documented instructions and information related to the process to ensure that they contain who, what, where, when, and how.**
   The inspector should review and gain an understanding of the air carrier's policies and procedures for the element they are inspecting in order to plan their inspection activities. This will usually involve reviewing sections of the appropriate Operations Specifications, training programs or other guidance, as well as the manuals related to the process.

2. **Review the description in the Manual that delineates the duties and responsibilities of the individual.**
   The inspector needs to understand the air carrier's system sufficiently to know the duties and responsibilities of individuals assigned the Responsibility or Authority for each process.

3. **Evaluate the person's qualifications and work experience (or resume, if appropriate).**
   The purpose of this task is to determine that the individuals with responsibility or authority for certain processes meet the qualifications to hold that position. In some instances, there may be regulatory requirements for those qualifications and the CHDO may have a copy of the individual's resume on file. The assigned inspectors should coordinate with the PI when obtaining any resumes. In other instances the qualification may be a certain certification or rating that may be demonstrated by looking at that individual's training records or FAA certificate, or by evaluating some level of expertise or a particular background. It is not the intent to require a formal written resume from all individuals.

4. **Review the appropriate organizational chart.**
   The inspector needs to understand the air carrier's organization sufficiently to identify who has the authority and responsibility for certain processes. In any organization there is not always one individual who is in charge. Authority and responsibility are often disbursed. A person can be an individual, a department, a committee, or a position (such as pilot in command).

5. **Discuss the process with the person.**
   The purpose of an SAI is to determine if the air carrier's policies and procedures are sufficient to ensure compliance with the CFRs and safe operations by that air carrier. Data collection tool questions are not to be asked of, and answered by, air carrier personnel during interviews or discussions. In completing this task, the inspector asks questions to find out what the air carrier's policies and procedures are and if they have common safety attributes built into their systems. The inspector should <u>not</u> ask a person, "Are you responsible?" Rather, he or she should ask questions and make observations to find out enough about how the carrier performs that process to determine who is responsible.

6. **Observe the process to gain an understanding of the procedures.**
   The main reason for observing the process being performed is to increase the inspector's depth of knowledge and understanding of the process. Through previous research, the inspector has gained "book" knowledge of how the process should function. Actual observations of the process while the carrier's personnel are performing it increases the inspector's understanding of the air carrier's procedures.

<u>Questions to answer</u>:

Each SAI lists a series of questions for the SAI Team to answer based on their observations during the various activities. Questions on each activity report are answered in response to what was observed on that single activity. The data collection tools are <u>not</u> designed to be a checklist of questions that are asked directly of air carrier personnel. It is inappropriate to give the air carrier a copy of the data collection tool and ask them to "fill it out". Each SAI attribute section includes the statement "***To meet this objective, the inspector will determine and record answers***

to the following questions." The following paragraphs describe some of the typical questions in each section of the data collection tool.

Section 1 – Responsibility Attribute, and

Section 2 – Authority Attribute

Each of these two sections asks a series of questions about a **clearly identifiable person** who is answerable (responsible) for the quality of the process or who has authority to establish and modify the process. The first question requires that a name be entered. There is confusion on the intent of this question and the definition of the word "person". In any organization there is not always one individual who is in charge - authority and responsibility are often disbursed. A person can be an individual, a department, a committee, or a position.

The intent is to identify the highest level person (at the appropriate level within the organization) who is responsible or has the authority for that particular element of the air carrier's system.

The SAI Team is also asked to determine **if that individual understands the various attributes** associated with the process and **if the individual knows they have responsibility (authority)** for the process. This information is gathered indirectly through observations and discussions, rather than quizzing an individual on safety attributes that they may or may not be familiar with.

The final series of questions in these two sections require that the SAI Team **determine if the position description and qualifications are clearly documented** by the air carrier and if the individual meets the qualification standards.

Section 3 – Procedures Attribute

In order to respond to the questions in this section, the SAI Team needs to gain a thorough understanding of the carrier's policies and procedures for this specific process. The purpose is to determine the method used by the air carrier to accomplish the process associated with the element. The Team is asked to **determine if written procedures exist**, if the procedures contain sufficient detail, and if they are in compliance with the CFRs. A reference in this section to the manual where these procedures are located provides helpful information for future SAI and EPI inspections, and may be entered into the text box that becomes available when a "yes" response is entered into the ATOS data repository. A list of procedures for this process is included in this section. Many of these listed procedures have specific regulatory requirements for this process, although the air carrier may have some latitude in implementing others. For this reason, a response of "no" to one of these questions doesn't necessarily mean that the company is in violation of a regulation or that any action is required.

Section 4 – Control Attribute

Controls are checks and restraints that must be built into the air carrier's processes to help ensure that the desired result of the process is continually achieved. While most controls are not regulatory, they are an important safety attribute with desirable features that help to reduce risk. Each SAI lists a series of controls. Some common types of controls are flags, data system

backups, authorized signatures, separation of duties, or a final review. It is important to note that air carriers must be able to demonstrate their controls. Few of these controls have their basis in specific regulatory requirements. For this reason, a response of "no" to one of these questions doesn't necessarily mean that the company is in violation of a regulation or that any action is required.

Section 5 – Process Measurement Attribute

The questions in this section focus on how well the air carrier knows that their process is working, what they use to measure how well the process is working, how they document that information, and how they use that information to improve their process. The purpose of this attribute is to require that a quality assurance function be developed by the air carrier to detect, identify, analyze, and document potential causes of non-conformity within their process. Each SAI lists process measures that are specific to that element. Process measures are designed to measure if the air carrier's policies, procedures, and controls are achieving the desired results or the purpose for that element. In most cases, process measures are non-regulatory. For this reason, a response of "no" to one of these questions, while not a violation, would be an indication of a risk that may require additional action on the part of the CMT.

Section 6 – Interfaces Attribute

This section focuses on the interactions between the process under inspection and other processes within the air carrier's organization. Each SAI data collection tool lists some of the interfaces that are specific to that element. There may be additional interfaces that the inspection team identifies which should be listed on the data collection tool. The first two questions typically ask if the air carrier has identified these interfaces as being part of their process. The next two questions "Are there written procedures for the use of air carrier personnel in the application of these interfaces?" and "Are there controls to ensure that interfaces occur?" might be more easily understood if the inspection team remembers that the questions are really asking if there are procedures (or controls) to ensure that the air carrier is **managing** the interfaces that occur.

A final question looks for consistent treatment of related processes in the air carrier's manuals. For example: The De-Icing program is a process that involves Flight Crews, Dispatchers, and Station Personnel. This process will have procedures and controls in at least three manuals: General Operations Manual, Dispatcher Manual, and Station Manual. In addition, it will be included in training programs for various company personnel. Identifying the interfaces helps to determine all the places where this process might be documented thereby preventing the development of conflicting procedures.

Master SAI Record:

SAI are team inspections, with each team responsible for a subsystem or portion of a subsystem, under the leadership of a team coordinator. This structure allows the CMT to assess the entire subsystem and obtain a "big picture" look at how the air carrier operates. Inspectors may be tasked to respond only to certain elements within a system, to certain attribute sections within a

data collection tool, or even to certain questions. It is necessary to only answer each SAI question once before the SAI Team Coordinator can save the Master SAI to final. When completing an individual activity for an SAI, the ASI will answer and enter responses only to those questions that can be answered directly from the activity being reported. The SAI team will coordinate their individual activities as necessary to accurately answer all the questions on the Master SAI.

SAI Activities:

SAI involve multiple activities over multiple dates (a sufficient number of activities to answer all the questions and perform a thorough, quality inspection). They are typically performed at the air carrier's general offices, main operations base or main maintenance base. A general rule of thumb is that any time that the common data field information changes, (date, location, etc.) it is a new activity and should be recorded as a new report, even if only a single question can be answered. Since an activity is a snapshot of the operator's system at that moment, most activities will probably be opened and closed in a single day.

SAI Common Data Fields.

Enter all the information you have available from each activity. At a minimum, every inspection activity should include Activity Start Date, Activity End Date, and Departure Point/Location. Additional guidance for each data field is found in the ATOS Automation User Guide.

Response Definitions:

Since the SAI questions are answered with either a "yes" or "no" and for some SAI questions, a third answer option of "N/A," it is important to understand the implications of those answers. Since the SAI is a team inspection, it is important that the team members reach consensus on each question or should the same question be answered more than once, the answers must be consistent.

YES means that the specific question being asked, for the particular SAI activity being observed, complies with applicable specific regulatory requirements (SRR) and any FAA guidance appropriate to that element. Further, a "yes" indicates that the observed procedures incorporate any system safety principles approved/accepted for the air carrier in the applicable safety attribute.

NOTE: A "yes" answer always indicates a positive response. Great care should be taken when determining if the response is positive. If the inspector records a positive answer using a qualifier (e.g. "Yes, but…") this may indicate that the answer should actually be a "No." In that case the inspector should re-evaluate his/her answer.

NO means that on the specific question being asked, for the particular SAI activity being observed, the operator either does not comply with applicable specific regulatory requirements (SRR) and FAA guidance for that element or that the operator's procedures do not incorporate system safety principles within the attribute.

No can also mean that system safety procedures are weak in the area being evaluated and that the operator's approved/accepted procedures are inadequate.

Observed non-compliance with regulations should necessitate coordination with the Principal Inspector and may result in an enforcement investigation. It should be noted that an **enforcement investigation would not be appropriate** when a "No" response identifies weaknesses in a system that has literal compliance with the regulations.

NOTE: Significant issues or items of immediate concern, as determined by the inspector, shall be verbally conveyed to the PI in a timely manner. Either an electronic message or memorandum should follow up verbal conveyance.

NOT APPLICABLE (N/A) should only be used for those questions that do not apply to all air carriers. N/A means that a particular question does not apply to the operator being evaluated due to such reasons as type of operation, type of aircraft, or area of operation, etc. N/A does not mean "not observed" or that not enough time was available to answer the question. If a question applies to an operator, then an observation must be conducted to appropriately answer the question.

Comment Fields:

All comments should be written in clear, concise language, using sentence case and proper spelling. Explanations should be complete and descriptive, with as much information as necessary for other CMT members to understand the comments without requiring further information from the inspector. Comments submitted in the ATOS automated tools should include who, what, where, when, why, and how. References should be entered when appropriate.

ASI should not enter the word "None" in any comment field. If a particular comment field does not apply, just leave it blank. Comment fields should be used to report observed facts, not inspector opinion. Comments that do not directly relate to the question being answered are inappropriate. An important function of the Data Evaluation Program Manager (DEPM) is the review of comment fields to ensure that quality data enters the ATOS database. The comments entered into the ATOS Data Repository are expected to conform to the guidance contained in the *"ATOS Data Quality Guidelines"* (See Figure 5-1). **The DEPM shall return any records for correction that do not meet these guidelines.**

SAI Team Concept

An SAI team may be composed of any combination of operations, airworthiness, or cabin safety inspectors. The team coordinator should assign elements, sections, attributes, or questions to the specialty most closely related to the area being evaluated.

An SAI Team evaluates an ATOS subsystem or a portion of a subsystem. Each team member is responsible for completing certain elements within a system, or a particular attribute section, or possibly certain questions within an attribute section. After performing these inspection activities, each SAI team member is responsible for reporting his or her own responses into

ATOS automation. Although communication between team members is essential, there is no need to share answers between team members for the purpose of having each team member answer every question. In fact, this is an undesirable action resulting in duplication. It is the function of the SAI Team Coordinator (TC) to ensure that inspection activities are not repetitive or redundant, and that all inspection activities are completed with all questions answered accurately on the SAI.

The best example of the application of this approach is illustrated by reviewing the responsibility and authority attribute sections of the SAI. It was never intended for three, four, or five inspectors to talk to the same person if that same person is either responsible for or has the authority for multiple elements in a subsystem. Therefore, it is possible that one inspector can answer the responsibility and authority questions for several elements within the subsystem that is being evaluated. The purpose of SAI Team concept is to allow the distribution of inspection activities among the SAI team so that the required data is collected in a timely manner and only once.

There may be instances when a SAI Team or a group of inspectors from a Team work together. This is certainly required during the initial planning for the inspection activities. Another team activity that might be appropriate is completing the Interface Attribute and comparing the information between multiple manuals. At the completion of this particular activity, the team coordinator may input all of the responses; or the responses could be divided up between the inspectors for input, but there should not be duplicate entries.